رضا قاسمی

۱- $b^2 + 12 = 28 \Rightarrow b = 4 \Rightarrow b = \pm 4$

۲- الف) $\Delta = -8 < 0$

ب) $z^2 - 2z - 15 \begin{cases} 2 - m^2 + 3 = 0 \Rightarrow m = \pm\sqrt{5} \\ 4 - m^2 - 5 = 0 \Rightarrow m^2 = -1 \text{ غ ق ق} \end{cases}$

۳- $S = 2\alpha + 2 = 4 \Rightarrow \alpha = 1 \Rightarrow \beta = 3 \Rightarrow P = \frac{m}{4} = 3$
$\Rightarrow m = 12$

۴- $\beta = 2\alpha - 4 \Rightarrow \alpha = 3 \Rightarrow P = \frac{m-1}{2} = 5 \Rightarrow m = 1$

۵- $P = 1 \Rightarrow \frac{m^2 - 2}{-m} = 1 \begin{cases} m = 1 \text{ غ ق ق} \; \Delta = 0 \\ m = -2 \Rightarrow \Delta > 0 \checkmark \end{cases}$

۶- $P \times \beta = 4 \Rightarrow \frac{2}{9} = 2 \Rightarrow \beta = \frac{4}{3} \Rightarrow S = m = \frac{9}{4} + \frac{4}{3} = \frac{43}{12}$
$\Rightarrow \alpha = \frac{9}{4}$

۷- $S = 2\beta + \beta \Rightarrow \beta = 1 , \alpha = 2$
$\Rightarrow P = 3$

۸- $S = 7 \quad P = 2 \quad \beta = \frac{2}{\alpha} \Rightarrow \beta^3 = \frac{8}{\alpha^3} \Rightarrow \alpha^3 + \frac{8}{\alpha^3} = S^3 - 3PS$
$= 301$

$h_{max} = \frac{٢٤}{٦٤} = \frac{٣}{٨}$ — ٩

$h = ٠ \Rightarrow$ $t = ٠$ α ; $t = \frac{١}{٢}$ ق ق

$x^٢ - ٢x + ١ = ٢x + ١$ → $x = ٠$; $x = ٤$ — ١٠

-١ → $x^٢ + x - ٢ = ٠$ → $x = ١$ ق ق ; $x = -٢$ ق ق

→ $x^٢ + ٣x + ٢ = ٠$ → $x = -٢$ غ ق ق ; $x = -١$ غ ق ق